

DE RENZIS
Serial No. 09/437,469

Atty Dkt: 3572-14
Art Unit: 2877

REMARKS/ARGUMENTS

Reexamination of the captioned application is respectfully requested.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicant basically:

1. Editorially amends claim 1 and claim 6.
2. Thanks the Examiner for the allowance of claim 18.
3. Thanks the Examiner for the indication of allowable subject matter in claims 5-6 and 8-14
4. Respectfully traverses all prior art rejections.
5. Advises the Examiner of the simultaneous filing of a Petition to Extend.

B. PATENTABILITY OF THE CLAIMS

Claims 1-2, 15 and 20-24 stand rejected under 35 USC 102(b) as being clearly anticipated by U.S. Patent 5,006,721 to Cameron et al. All prior art rejections are respectfully traversed for at least the following reasons.

Applicant respectfully believes that the Office Action has overlooked or misunderstood significant differences between Applicant's independent claim 1 and the applied Cameron reference. Accordingly, Applicant earnestly entreats the Examiner to consider carefully the following explanation.

Both Cameron and Applicant have (first) a calibration operation and (subsequently) a measurement operation (with the measurement operation being interpreted using results of the calibration operation). However, Applicant's data collection and correlation (in both calibration and measurement) differ significantly from Cameron.

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In the above regard, Cameron has essentially a one dimensional correspondence of signal intensity value and measured range. That is, upon receipt by Cameron of a signal having a certain signal intensity value, Cameron uses that certain signal intensity value directly to perform a simple look up of the measured range.

By contrast, Applicant uses both (1) calibration sample and (2) a numerical value of the calibration sample to make a correlation to distance. Both when Applicant calibrates and when Applicant measures, Applicant scans an object and obtains an analog signal. The received analog signal is sampled at various (time) positions to obtain a number of samples (x_j for calibration; x_k for measurement (see, e.g., page 20, last two paragraphs)). The sampled analog signal is then converted to a digital signal so as to obtain a numerical value for each sample, e.g., to obtain an amplitude for each position. For example, during Applicant's measurement operation, the sampled analog signal is then converted to a digital signal so as to obtain a numerical value k for each sample x_k .

In correlating the measurement data to the calibration data, Applicant uses not only the amplitude k ("numerical value") of the received signal, but the sample (position) number of the scan, e.g., x_k . So when referring to Applicant's calibration matrix, Applicant does not simply match a magnitude with a distance, but selects the appropriate distance value in the calibration matrix based both on magnitude k and sample number x_k (the sample number being referred to in the calibration matrix as "j" rather than "k"). This correlation is performed for each further sample x_{k+1} , advantageously allowing multidimensional measurement of an object. See, e.g., page 21, second and full third paragraphs of the specification.

Thus, claim 1 is not anticipated or suggested by US Patent 5,006,721 to Cameron. Specifically, Cameron does not disclose nor suggest associating, in the calibration step, a prefixed distance value with (1) at least one calibration sample of a calibration distance signal and (2) at least one numerical value of said at least one calibration sample (see

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step e) of claim 1). Nor does Cameron, in distance measuring steps, identify a prefixed distance value which has been associated, in the previous calibration step, with (1) at least one sample of the signal representative of the distance of the object and with (2) the numerical value of this at least one sample, and associate this prefixed distance value to this last numerical value (see steps f) and g) of claim 1). In other words. Cameron does not disclose providing a distance value for any given combination of sample of the signal representative of the distance and numerical value of this sample. Differently from the Applicant's claims, Cameron discloses providing, in the calibration and distance measurement steps, for a predetermined corrected range value for any given combination of measured range and signal intensity values (see column 9. lines 45 to 48). Therefore, Cameron does not anticipate nor suggest the details of the calibration and distance measurement steps of claim 1, which therefore should be considered as being novel and non obvious over Cameron.

C. MISCELLANEOUS

In view of the foregoing and other considerations, it is hoped that the Examiner is now further enlightened and favorably inclined to allow all pending claims. Indeed, Applicant deems all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

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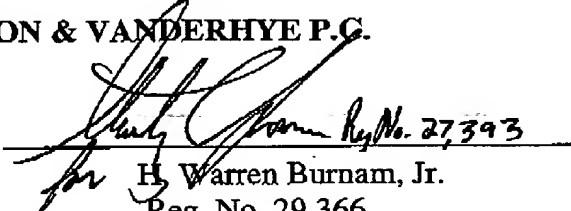
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Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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